REMARKS/ARGUMENTS

Application Amendments

By the amendments presented herein, the paragraph regarding Related U.S. Application Data has been rewritten to correct a typographical error in the citation of U.S. Serial No. 09/760,289. The status of U.S. Serial No. 10/206,574 has also been updated to reflect its issuance as U.S. Patent 6,797,852.

Also by the amendments presented, independent claims 51, 61, 71, 80, 92, 103, 113, 128, and 130 have been rewritten to indicate that the activity of the molecular sieve or molecular sieve catalyst is protected (by temperature maintenance, by anhydrous environment, by shielding, or by preservation of methanol uptake index) before the sieve or catalyst is used in a catalytic process. Support for these amendments can be found in the original specification, *e.g.*, at page 4, lines 24-26; page 8, lines 18-19; page 11, lines 25-28; and page 12, lines 11-13.

Also by the amendments presented, claims 51 and 61 have been rewritten to incorporate the subject matter of claims 59 and 69, now cancelled, by specifying that the catalyst is exposed to moisture while being maintained at a temperature of at least 150°C.

Also by the amendments presented herein, claims 61 and 71 have been rewritten to specify that the catalyst, which is loaded into a reactor, regenerator, or storage environment and is maintained at 150°C or more, is one which has its catalytically active sites unshielded. Support for these amendments to claims 61 and 71 can be found in the original specification, *e.g.*, at page 6, lines 29-32 and page 12, lines 1-5.

Also by the amendments presented herein, claim 115 has been rewritten to delete the requirement that the sieve is stored in wet filter cake form. This serves to eliminate an inconsistency with the claim from which it depends.

Also by the amendments presented, claim 129 has been rewritten to indicate that it is directed to a sieve in a heated system instead of to a method.

Upon entry of the claim amendments presented herein, claims 51-58, 60-68, and 70-135 remain in the application. No additional claims fee is due as a result of these amendments. No new matter has been added.

Invention Synopsis

As presently amended, the claimed invention is directed to methods and systems for protecting the catalytically active sites within a molecular sieve or molecular sieve catalyst from moisture-caused deactivation, typically while such sieves or catalysts are being stored, transported, or loaded, before their use in a catalytic conversion process. Such sieves can have their catalytic sites protected by shielding these catalytic sites. Shielding can be effected by leaving the sieve-forming organic template in place within the sieve, by forming carbonaceous deposits in or on the sieves, and/or by maintaining the sieves or catalysts in contact with an anhydrous liquid or gas.

After such shields of the catalytically active sites have been removed, the catalytically active sites in the sieves or catalysts can still be protected against deactivation by a moisture-containing environment, if that moisture-containing environment is maintained at a temperature of 150°C or above. This can be done by holding the sieves or sieve-containing catalysts within a heated system such as a reactor, a regenerator, or a storage environment. Protection of the catalytically active sites from moisture-caused deactivation can be effected by the methods and systems of this invention, such that the sieves or catalysts can have a methanol uptake index of at least 0.15 when the sieves or catalysts are used in conversion processes.

Formal Matters

The Examiner has noted an informality in the previously submitted Preliminary Amendment concerning the citation of one of the parent applications in the added paragraph providing Related U.S. Application Data. The citation of USSN 09/760,289 has been corrected by the specification amendment submitted herein. The status of USSN 10/206,574 has also been updated, as requested by the Examiner, to indicate the issuance of said application as U.S. Patent No. 6,797,852. These specification amendments should obviate the objection to the specification.

Art Rejections

Claims 51-135 have been rejected under 35 USC §103(a) as allegedly being obvious over Lewis *et al.* (U.S. Patent No. 4,973,792, hereinafter "Lewis"). The Examiner contends that the

Lewis disclosure of a conversion process using molecular sieve catalyst particles which are regenerated *in situ* within the reactor would have suggested the methods and systems of the present invention. Such a rejection is respectfully traversed as it would apply to the claims, as amended herein.

Lewis discloses a process for catalytically converting a feedstock, wherein fluidized catalyst particles are contacted with a feedstock to convert the feedstock to product. The mass of catalyst particles is then contacted with a purge medium to reduce the amount of feedstock and product in contact with the catalyst. The mass of catalyst particles is then contacted *in situ* within the reactor with a regeneration medium to improve the catalytic properties of the catalyst particles. The Lewis cycle of reaction, purge, and regeneration is repeated periodically. There is no disclosure in Lewis concerning the problem of catalyst deactivation caused by contact with moisture and no disclosure in Lewis of any attempts to prevent catalyst deactivation during storage, transport, or loading of the catalyst particles involved in the Lewis process.

It is respectfully submitted that Lewis neither discloses nor suggests all of the elements of the various embodiments of Applicants' invention, as now claimed. There is first of all no disclosure at all in Lewis concerning the conditions of handling (*e.g.*, storage, transport) of the catalyst particle (either before or after calcination) before the catalyst particles are initially loaded into the Lewis reactor. So Applicants' specified sieve and catalyst treatment methods, which must occur before the sieves or catalysts are used in a catalytic process, are clearly not taught or suggested by Lewis. It should be noted that Lewis' Example 28 reaction temperature of 500°C, as referenced by the Examiner, suggests nothing concerning the conditions of catalyst storage, transport, and loading, since Example 28 clearly indicates that the catalyst is heated to 500°C after it has been placed in the reaction vessel.

Secondly, there is also no disclosure in Lewis involving any loading of the used, and presumably coked, catalyst into a regenerator or storage environment, as is required in a number of Applicants' claims. This is because most of the catalyst particles in Lewis never leave the Lewis reactor for an *ex situ* regenerator or storage environment.

Further, although Lewis does expose catalyst particles within the reactor to steam at elevated reactor temperatures during the Lewis purge procedure, this step in Lewis clearly occurs after the Lewis catalyst particles have already been used in a catalytic process and before the

coke shield of the catalyst active sites has been removed by *in situ* regeneration. The Lewis sequence of catalyst treatment steps thus doe not conform to the several steps and order of steps in Applicants' claims, as presently pending.

Finally, it is submitted that the catalyst particles in the Lewis process would not "inherently" have the methanol uptake index characteristics as specified in several of applicants' claims. The Examiner asserts that, since the SAPOs used in Lewis are the same as those used in Applicants' methods, then the methanol uptake index of the Lewis catalyst particles would be the same as Applicants specify. It is respectfully submitted that this logic is erroneous. A SAPO molecular sieve of a given type or structure can have widely varying methanol uptake index characteristics, depending upon whether or not it has been subjected to a catalytically-deactivating, moisture-containing environment. Methanol uptake index is, thus, not only a function of molecular sieve type, but also depends upon how such a molecular sieve has been treated or handled.

In light of all of the foregoing considerations, it is submitted that Lewis has nothing to do with the problem of protecting active catalytic sites during handling of molecular sieves or catalysts prior to catalytic use of such materials, provides no recognition that any such problem exits, and discloses no steps or procedures which would inherently solve, or even address, a catalyst deactivation problem in the manner provided by the combinations of elements set forth in Applicants' amended claims. Given this situation, it is submitted that continued rejection of Applicants' claims, as amended herein, under 35 USC §103 over Lewis would be improper.

Double Patenting Rejection

Claims 51-135 herein have been provisionally rejected for obviousness-type double patenting over Claims 1-69 of the commonly-assigned, co-pending application having U.S. Serial No. 10/641,718. Regarding the double patenting rejections, Applicants respectfully submit that, due to the still-changeable nature of the claims, these rejections should be held in abeyance, *e.g.*, until such point as the pending claims are allowable but for such double patenting rejections. At that juncture, Applicants will, if necessary, submit the appropriate terminal disclaimer(s) to obviate any then-pending double patenting rejections. Applicants respectfully submit that these rejections are not ripe for resolution until there are otherwise allowable claims

and allowed or issued claims in the cases to which terminal disclaimers are sought. Indeed, Applicants respectfully note that the M.P.E.P. instructs the Examiner to withdraw a provisional double patenting rejection in the earlier filed of two pending applications and to allow that earlier filed application to issue as a patent *without a terminal disclaimer*. *See* M.P.E.P 804(I)(B)(1).

CONCLUSIONS

Applicants have made an earnest effort to place their application in proper form and to distinguish their claimed invention from the applied prior art. WHEREFORE, reconsideration of this application, entry of the claim amendments presented, withdrawal of the claim rejection under 35 USC §103, and allowance of the claims remaining in the application, are all respectfully requested.

Any comments or questions concerning the application can be directed to the undersigned at the telephone number given below.

Respectfully submitted,

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